PRE-BOARD

SUBJECT– SCIENCE

Maximum Marks : 80 **Class –Xth** **Time : 3 Hours**

04-02-2019

GENERAL INSTRUCTIONS

(i) The question paper comprises two sections – A and B. You are to attempt both the sections.

(ii) All questions are compulsory.

(iii) All questions of Section-A and B are to be attempted separately.

(iv) Question numbers 1 and 2 in Section-A are 1 mark question. They are to be answered in one word or in one sentence.

(v) Question numbers 3 to 5 in Section-A are 2 marks questions. These are to be answered in about 30 words each.

(vi) Question numbers 6 to 15 in Section-A are 3 marks questions. These are to be answered in about 50 words each.

(vii) Question numbers 16 to 21 in Section-A are 5 marks questions. These are to be answered in about 70 words each.

(viii) Question numbers 22 to 27 in Section-B are based on practical skills. Each question is a two marks question. These are to be answered in brief.

Section - A

1. Name a common nutrient that is absorbed in the small intestine and reabsorbed by the kidney tubules.

2. Draw a ray diagram to show the path of the reflected ray corresponding to an incident ray of light parallel to the principal axis of a convex mirror and show the angle of incidence and angle of reflection on it.

3. Explain the following in terms of gain or loss of oxygen with two example
(a) oxidation (b) Reduction

4. The refractive indices of glass and water with respect to air are 3/2 and 4/3 respectively. If speed of light in glass is 2×10^8 m/s, find the speed of light in water.

5. Name the type of reproduction involved in the following :
(i) A slice of bread has greenish-yellow patches.
(ii) Potato in the store room starts sprouting.

6. With the help of scattering of light, explain the reason for the difference in colours of the Sun as it appears during sunset/sunrise and noon.

7. An object of height 5 cm is placed perpendicular to the principal axis of a concave lens of focal length 10 cm. If the distance of the object from the optical centre of the lens is 20 cm. determine the position, nature and size of the image formed using the lens formula.

OR

What is meant by power of a lens? Define its SI unit. You have two lenses A and B of focal lengths +10 cm and –10 cm, respectively. State the nature and power of each lens. Which of the two lenses will form a virtual and magnified image of an object placed 8 cm from the lens? Draw a ray diagram to justify your answer.

8. The position of three elements A, B, C in the periodic table are shown below

Group16	Group 17
–	–
–	A
–	–
B	C

(a) State whether A is a metal or non metal
(b) Will C be large or smaller in size than B explain
(c) From A, B & C which one is most non-mettalic

9. Differentiate between Metal and Non-metal on the basis of chemical properties

10. Draw a neat diagram of human brain and label Cerebrum, Medulla and Cerebellum. Write the functions of the above mentioned parts.

OR

"Both overproduction and underproduction of Growth hormone leads to disorders in the body." Explain.

11. Write down the three ways of break down of glucose during respiration.

12. Define resistance of a metal wire. Find the equivalent resistance of the combination of resistances 50 Ω 100 Ω and 150 Ω when they are connected in parallel?

13. (a) Give a test that can be used to differentiate between saturated and unsaturated hydrocarbon
(b) How would you distinguish experimentally between an alcohol and carboxylic acid

OR

Compare the meendleev periodic table and the modern periodic table

14. Explain the phenomenon of biological magnification? How does it affect organisms belonging to different tropic levels particularly the tertiary consumer?

15. We know there are four main stakeholders when it comes to forests and wildlife. Which among these should have the authority to decide the management of forest produces? Why do you think so?

16. By making a suitable diagram explain the working of AC generators.

17. Write all the process used for the extraction of pure copper from copper pyrite (Cus)

OR

Write the process of manufacturing of bakery soda & sodium hydroxide write any 4 uses of backing soda

18. Name the phenomenon that governs the following: -

(i) Green beetles living in green bushes are not eaten by the crows.

(ii) Number of blue beetles in green bushes increases, only because the red beetles living there were trampled by a herd of elephants.

(iii) No 'medium height plants' are obtained in F1 generation, upon crossing pure tall and dwarf pea plants.

(iv) Tails of mice were surgically removed for several generations; still mice had tails in the following generations.

(v) A migrant beetle reproduces with the local population; as a result genes of migrant beetle enter the new population.

OR

(i) What are fossils?
(ii) Why are fossils considered important in the study of evolution?
(iii) Explain two ways by which age of fossils can be estimated.

19. 'A' is the metal which is highly reactive when react with a substance 'B' which is a colourless liquid evolve a gas 'C' which burns with pop sound. & if we heat 'B' with concentration sulphuric acid it will produce 'D' & 'E', here D is a unsaturated hydrocarbon, which upon combustion produce 'X' & 'Y". Identify A, B, C, D, E, X & y. Also write all chemical equation

20. A small bulb has a resistance of 2Ω when cold. It takes up a current of 0.4 A from a source of 4V and then starts glowing. Calculate (i) the resistance of the bulb when it is glowing and
(ii) Elaborate on the reason for the difference in resistance?
(iii) An electric iron of resistance 20Ωtakes a current of 5 A. Calculate the heat developed in 30sec.

21. (i) Draw a labelled diagram of human respiratory system.
(ii) Discuss the mechanism of breathing.

Section - B

22. Equal length of magnesium ribbons are taken in test tubes A & B, here HCl is added in test tube A, while acetic acid (CH_3COOH) is added to test tube B. Amount & concentration for both acid are same. In which test tube fizzing occur more vigorously & Why?

23. A solution of substance 'X' is used for white washing
(a) Name the substance 'X'& write it's formula
(b) Write the reaction of substance 'X' with water.

24. A student observed a permanent slide showing asexual reproduction in Amoeba. Draw diagrams of the observations he must have made from the slide. Name the process also.

25. A student conducted an experiment to show 'Light is necessary for photosynthesis'. List two precautions that he/she must take for obtaining correct observations.

26. What are the most essential conditions for current flow through the conductor?

OR

Why does the current not flow in the circuit when we take out the plug from key?

27. What would be the reading of ammeter and voltmeter in the given circuit?